

We claim:

1. Method of making an undergarment having refastenable side seams from a substantially two-dimensional web, the web having two longitudinal sides and a first lateral edge extending perpendicularly to the longitudinal sides, the method comprising the steps

5 of:

preconditioning the web to include at least four refastening surfaces;

transporting the web in a processing direction;

10 cutting the web along a second lateral edge to form a two-dimensional pre-form that includes the first and the second lateral edges and the two longitudinal edges; each longitudinal edge having two waist sections and a crotch section located intermediate the waist sections; the refastening surfaces are located adjacent and inboard on the waist sections;

gripping the pre-form adjacent each waist section with a gripping means in four gripping areas, each gripping area being located near a respective refastening surface;

15 jointly rotating at least the gripping means which hold the gripping areas in the region of one of the lateral edges around at least one hinging axis extending substantially parallel to the lateral edges of the pre-form to place the first lateral edge generally parallel and opposite to the second lateral edge;

superimposing the refastening surfaces in a contacting relationship;

20 joining the superimposed refastening surfaces in a securing means, thus forming the undergarment; and

releasing the undergarment from the gripping means.

25 2. The method of claim 1, further comprising the step of forming the web by combining a liquid-impervious backsheet, an absorbent core and a liquid-pervious topsheet, such that the undergarment is an absorbent article.

30 3. The method of claim 1 wherein the pre-form includes an exterior surface and a body-contacting surface opposite the exterior surface; and the waist sections define a front waist section and a back waist section.

35 4. The method of claim 3, wherein two of the refastening surfaces are located on the exterior surface of the front waist section and two of the refastening surfaces are located on the body-contacting surface of the back waist section.

5. The method of claim 3, wherein two of the refastening surfaces are located on the body-contacting surface of the front waist section and two of the refastening surfaces are located on the exterior surface of the back waist section.

5 6. The method of claim 3, wherein, prior to cutting of the web, there are portions of the web that will form adjacent pre-forms and the adjacent pre-forms are joined to each other by the back waist section of one pre-form and the back waist section of the adjacent pre-form.

10 7. The method of claim 3, wherein, prior to cutting of the web, there are portions of the web that will form adjacent pre-forms and the adjacent pre-forms are joined to each other by the back waist section of one pre-form and the front waist section of the adjacent pre-form.

15 8. The method of claim 4, further comprising a step of folding inward a portion of the longitudinal edge of the front waist section prior to jointly rotating the gripping means to facilitate joining of the superimposed refastening surfaces.

20 9. The method of claim 3, wherein two of the refastening surfaces are located on the body-contacting surface of the front waist section and two of the refastening surfaces are located on the body-contacting surface of the back waist section.

25 10. The method of claim 9, further comprising a step of folding inward toward the exterior surface of the pre-form the joined superimposed refastening surfaces and bonding the joined superimposed refastening surfaces to the exterior surface of the pre-form.

30 11. Method of making an undergarment having refastenable side seams from a substantially two-dimensional web, the web having two lateral sides and a first longitudinal edge extending perpendicularly to the lateral sides, the method comprising the steps of:  
 preconditioning the web to include at least four refastening surfaces;  
 transporting the web in a processing direction;  
 cutting the web along a second longitudinal edge to form a two-dimensional pre-form that includes the first and the second longitudinal edges and the two lateral edges;  
 each longitudinal edge having two waist sections and a crotch section located  
 35 intermediate the waist sections; the refastening surfaces are located adjacent and inboard on the waist sections;

gripping the pre-form adjacent each waist section with a gripping means in four gripping areas, each gripping area being located near a respective refastening surface;

jointly rotating at least the gripping means which hold the gripping areas in the region of one of the lateral edges around at least one hinging axis extending substantially

5 parallel to the lateral edges of the pre-form to place one of the lateral edges generally parallel and opposite to the other lateral edge;

superimposing the refastening surfaces in a contacting relationship;

joining the superimposed refastening surfaces in a securing means, thus forming the undergarment; and

10 releasing the undergarment from the gripping means.

12. Method of making an undergarment having refastenable side seams from a substantially two-dimensional web, the web having two longitudinal sides and a first lateral edge extending perpendicularly to the longitudinal sides, the method comprising the steps of:

15 preconditioning the web to include at least two areas of hook material and two areas of mating loop material;

transporting the web in a processing direction;

cutting the web along a second lateral edge to form a two-dimensional pre-form that includes the first and the second lateral edges and the two longitudinal edges; each longitudinal edge having two waist sections and a crotch section located intermediate the waist sections; the areas of hook material and areas of mating loop material are located adjacent and inboard on the waist sections;

20 gripping the pre-form adjacent each waist section with a gripping means in four gripping areas, two of the gripping areas being located near respective areas of hook material and two of the gripping areas being located near respective areas of mating loop material;

jointly rotating at least the gripping means which hold the gripping areas in the region of one of the lateral edges around at least one hinging axis extending substantially parallel to the lateral edges of the pre-form to place the first lateral edge generally parallel and opposite to the second lateral edge;

superimposing the areas of hook material with the areas of mating loop material in a contacting relationship;

joining the superimposed areas of hook material and areas of mating loop material in a securing means, thus forming the undergarment; and

35 releasing the undergarment from the gripping means.

13. The method of claim 12, further comprising the step of forming the web by combining a liquid-impervious backsheet, an absorbent core and a liquid-pervious topsheet, such that the undergarment is an absorbent article.

5

14. The method of claim 12 wherein the pre-form includes an exterior surface and a body-contacting surface opposite the exterior surface; and the waist sections define a front waist section and a back waist section.

10

15. The method of claim 14, wherein the areas of mating loop material are located on the exterior surface of the front waist section and the areas of hook material are located on the body-contacting surface of the back waist section.

15

16. The method of claim 14, wherein the areas of hook material are located on the exterior surface of the front waist section and the areas of mating loop material are located on the body-contacting surface of the back waist section.

20

17. The method of claim 14, wherein the areas of mating loop material are located on the body-contacting surface of the front waist section and the areas of hook material are located on the exterior surface of the back waist section.

25

18. The method of claim 14, wherein the areas of hook material are located on the body-contacting surface of the front waist section and the areas of mating loop material are located on the exterior surface of the back waist section.

30

19. The method of claim 14, wherein, prior to cutting of the web, there are portions of the web that will form adjacent pre-forms and the adjacent pre-forms are joined to each other by the back waist section of one pre-form and the back waist section of the adjacent pre-form.

35

20. The method of claim 14, wherein, prior to cutting of the web, there are portions of the web that will form adjacent pre-forms and the adjacent pre-forms are joined to each other by the back waist section of one pre-form and the front waist section of the adjacent pre-form.

21. The method of claim 14, wherein the areas of hook material are located on the body-contacting surface of the front waist section and the areas of mating loop material are located on the body-contacting surface of the back waist section.

5 22. The method of claim 14, wherein the areas of mating loop material are located on the body-contacting surface of the front waist section and the areas of hook material are located on the body-contacting surface of the back waist section.

10 23. The method of claim 22, further comprising a step of folding inward to the exterior surface of the pre-form the joined superimposed areas of hook material and areas of loop material and bonding the joined superimposed areas of hook material and areas of loop material to the exterior surface of the pre-form.

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100